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Letter to Editor: Vitamin D Fighting Against Novel Coronavirus (SARS-CoV-2)

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Letter to Editor

We are under attack by an unseen entity. A never seen disaster like this has crippled the world. For the first instance, as an emergency, the lock-down and social boycotts were applied all around the world. These steps have slowed down the speed of spread. A game changer effective and safe vaccine could take unexpected long time. Long term lockdown and social boycotts could lead to more disasters than virus. And again, after some time, countries will be forced to lift-off all these restrictions to save economy, industries and social system. So, what to do? We need a novel sophisticated system that could hold the world from economic, industrial and social disasters. All activities should go on to its full extent with precise precautions and guidelines. Remdesivir, Hydroxychloroquine, Azithromycin and plasma therapy were some early prescriptions those ended up with hopeless results. In a WHO statement, this virus may never be gone. HIV still exists since decades. The horrifying aspects with this global pandemic are its mortality rate and very contagious nature (R_0 2 - 2.5). Most of the world population is quite vulnerable to SARS-CoV-2. Recent mortality rate of the COVID-19 is 3.56, which could be higher or lower in near future. Repeated infections are also being seen in some countries. It's a combat like situation and we should consider every possible aspect to win. Until vaccine development is under way, all countries should follow some basic precautions strictly like face mask, frequently washing hand with hand wash and hot water, frequently using hand sanitizer and frequently taking hot water etc. Workout, immunizing foods and supplements are also important in this regard. Literature shows, vitamin D regulates immune system [1]. Around one billion people worldwide are deficient in vitamin D and this number may increase drastically during worldly lock down. Vitamin D deficiency may also cause dementia, prostate cancer, severe erectile dysfunction, risk of schizophrenia, and heart disease etc. [2]. Vitamin D reduce the risk of influenza [3]. Vitamin

D or cholecalciferol is a steroid hormone. It is reported that steroid hormone regulates antiviral immunity [4]. Cellular steroid hormone synthesis suppresses the inflammatory response to viral infections [5]. The active form of vitamin D exhibits antiviral immune response against respiratory virus infections [6]. In a recent study, scientists from Northwestern University have discovered a strong correlation between severe vitamin D deficiency and COVID-19 mortality rates [7]. COVID-19 mortality rates are higher wherever patients have lower levels of vitamin D. Vitamin D enhance immune system and it also checks immune systems from becoming overactive. Vitamin D deficiency causes cytokine storm which severely damage lungs and cause the death of covid-19 patients [7]. It is considered that higher deaths are due to low immunity or over reaction of immune system. Immediate researches are going on to establish a fair relationship between vitamin D and COVID-19 [8]. Vitamin D has almost no side effect in normal doses. Its common dose differs in different age groups (400-800 IU). It is clear that vitamin D supplementation can be game changer in appropriate doses. People should be tested for vitamin D levels and those having deficiency should be given proper doses of supplement and in this way COVID-19 mortality rate may decrease rapidly. No doubt, it could be a Holy Grail at the time of SARS-CoV-2 invasion.

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